

ABSTRACT OF THE DISCLOSURE

DNA and protein constructs useful in producing vaccines against human cytomegalovirus contain optionally N-end modified and N-terminal ubiquitinated human cytomegalovirus antigenic proteins, including pp65, pp150, IE1, gB and antigenic fragments thereof. Vaccine viruses, in particular poxviruses such as vaccinia and Modified Vaccinia Ankara, that express the constructs may be used as vaccines to augment the immune response to human cytomegalovirus, both prophylactically and in patients already carrying human cytomegalovirus, as well as to create and expand cytomegalovirus-reactive T cells for transfer of adoptive immunity.